APPROVED

FIG. 1

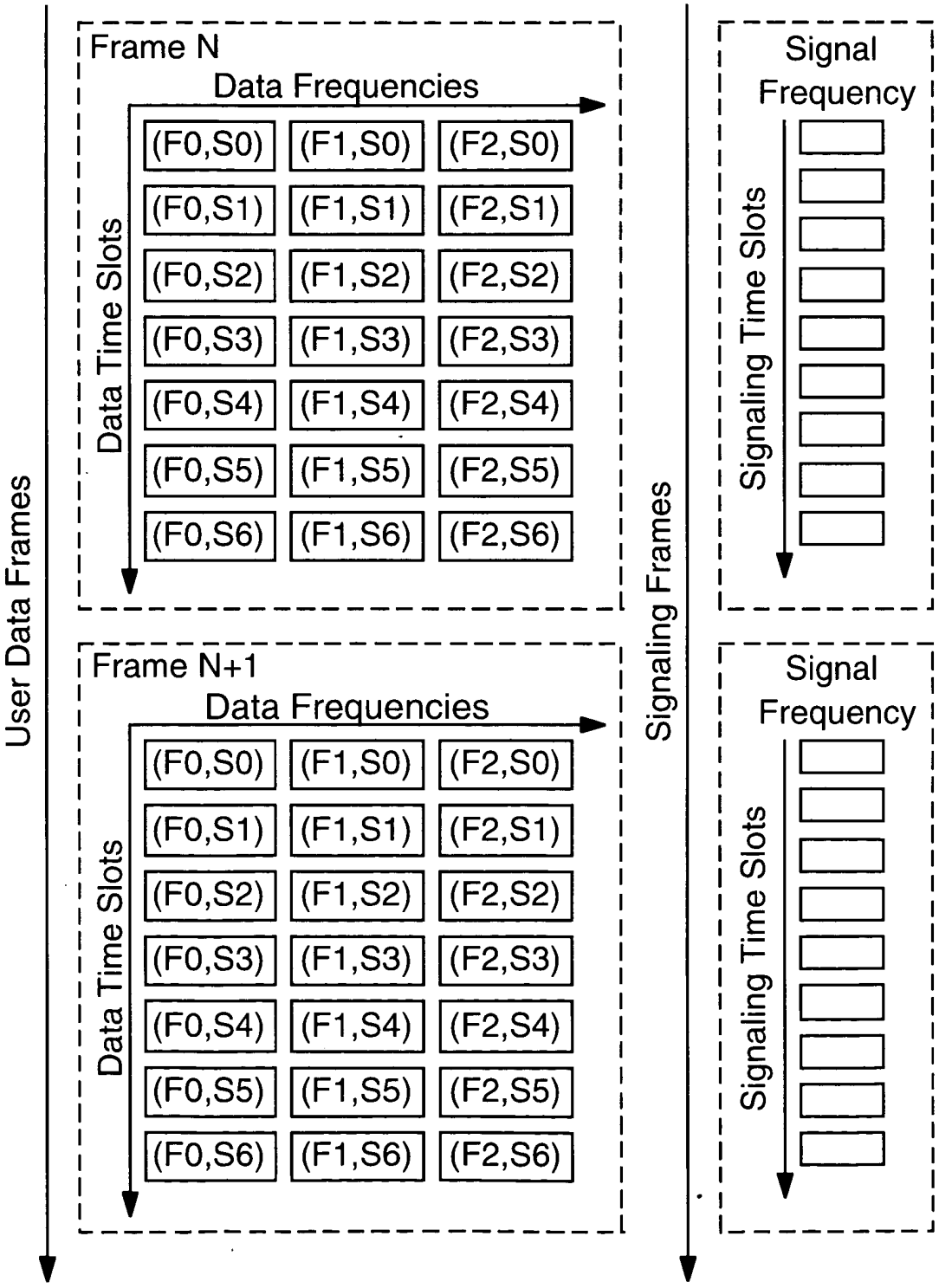


FIG. 2

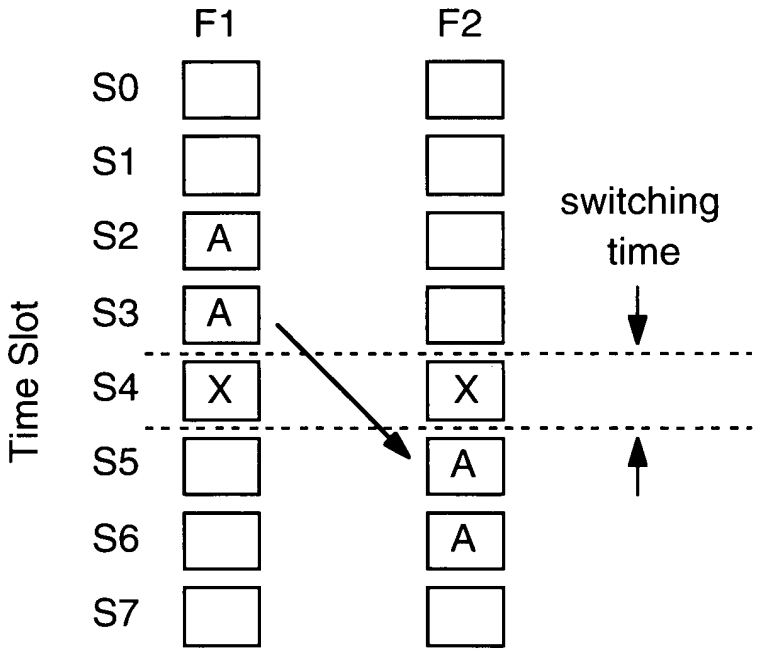


FIG. 3

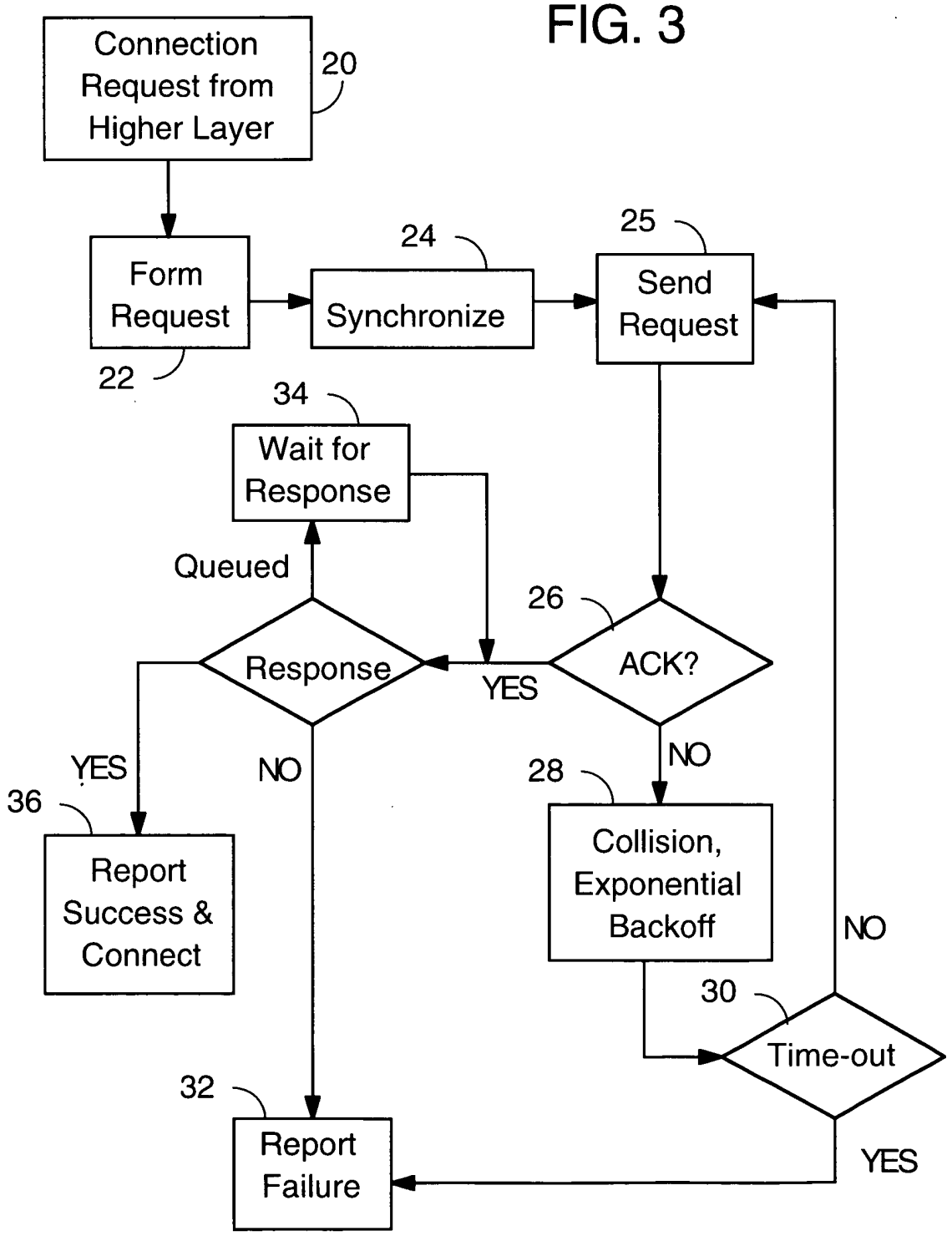
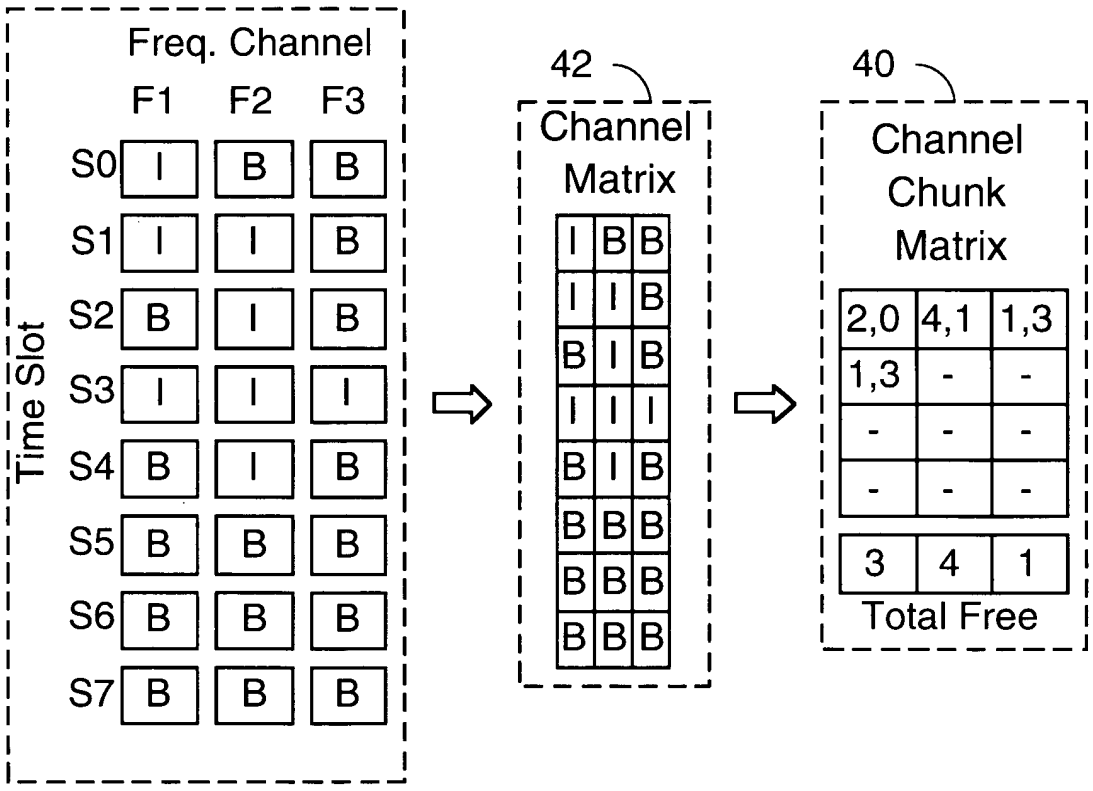

Connection Request from Higher Layer
20
Form Request
22
24
Synchronize
25
Send Request
34
Wait for Response
Queued
26
ACK?
YES
Response
YES
NO
36
Report Success & Connect
NO
28
Collision, Exponential Backoff
30
Time-out
NO
YES
32
Report Failure

FIG. 4


Freq. Channel
F1
F2
F3
Time Slot
S0
S1
S2
S3
S4
S5
S6
S7
I
B
42
Channel Matrix
40
Channel Chunk Matrix
2,0
4,1
1,3
-
3
4
1
Total Free

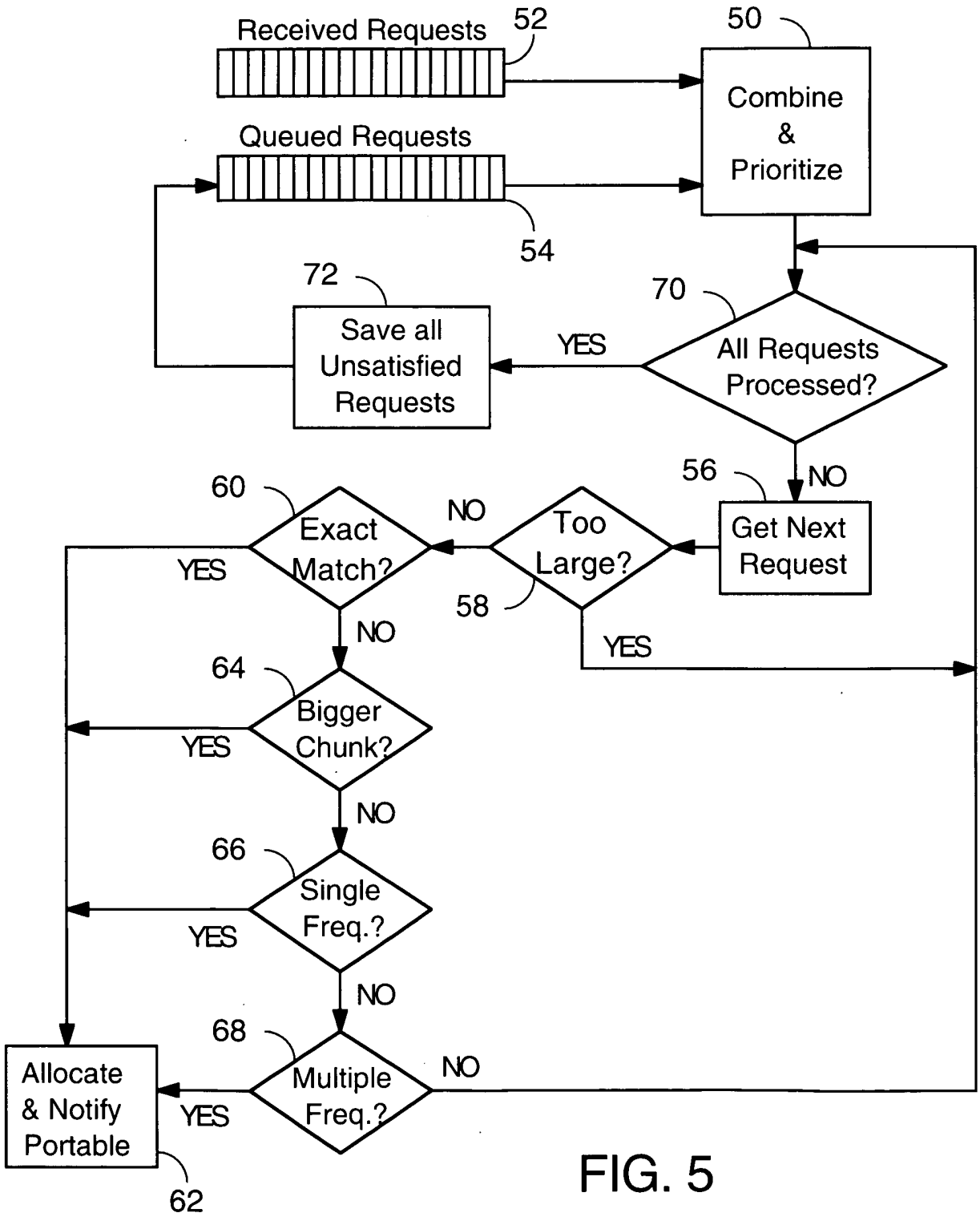

Received Requests
52
50
Combine & Prioritize
Queued Requests
54
72
Save all Unsatisfied Requests
70
All Requests Processed?
YES
NO
56
Get Next Request
60
Exact Match?
NO
Too Large?
58
YES
YES
NO
64
Bigger Chunk?
YES
NO
66
Single Freq.?
YES
NO
68
Multiple Freq.?
NO
Allocate & Notify Portable
YES
62

FIG. 5

FIG. 6

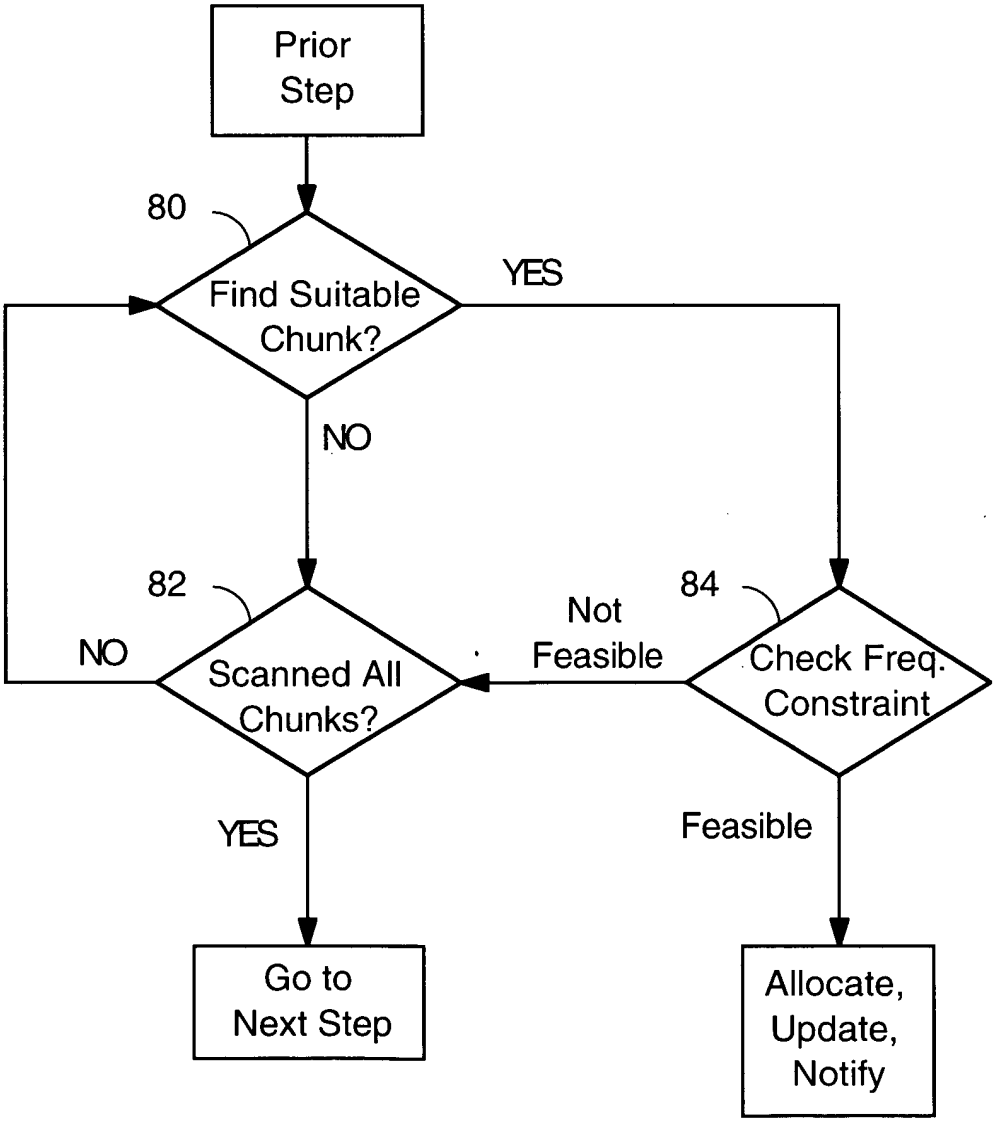

Prior Step
80
Find Suitable Chunk?
YES
NO
82
Scanned All Chunks?
NO
YES
Go to Next Step
84
Check Freq. Constraint
Not Feasible
Feasible
Allocate, Update, Notify

FIG. 7

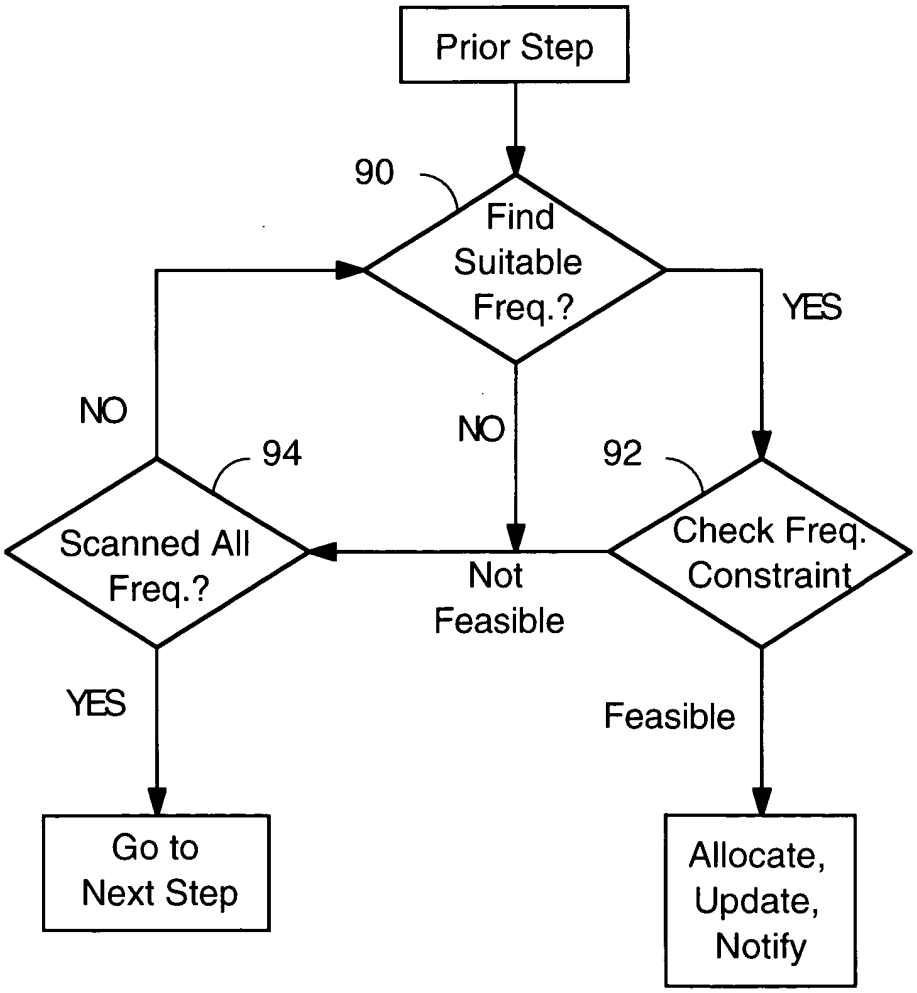
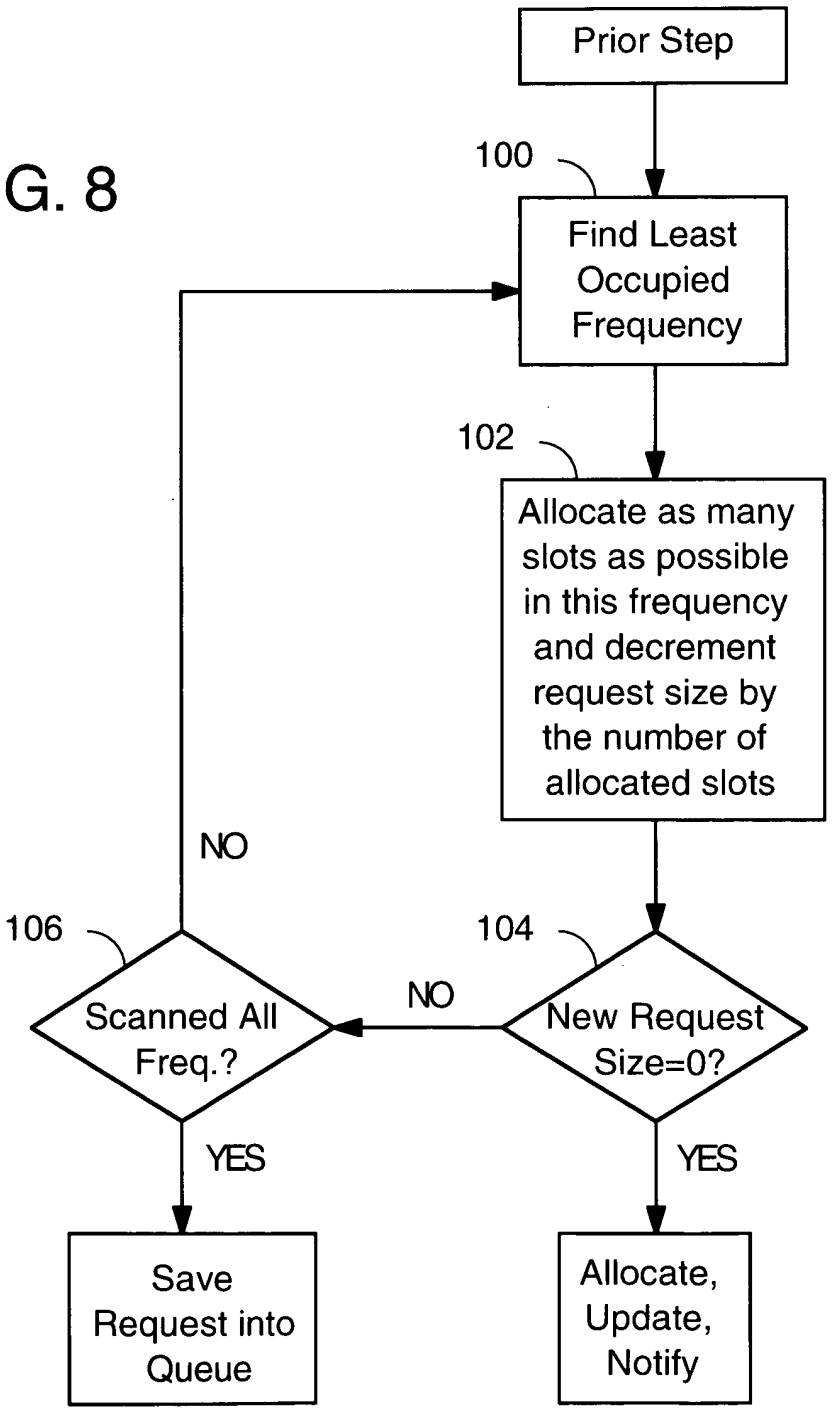

Prior Step
90
Find Suitable Freq.?
YES
NO
NO
94
92
Scanned All Freq.?
Check Freq. Constraint
Not Feasible
YES
Feasible
Go to Next Step
Allocate, Update, Notify

FIG. 8


Prior Step
100
Find Least Occupied Frequency
102
Allocate as many slots as possible in this frequency and decrement request size by the number of allocated slots
104
New Request Size=0?
NO
106
Scanned All Freq.?
NO
YES
YES
Save Request into Queue
Allocate, Update, Notify